AMENDMENTS TO THE CLAIMS:

1. (Currently amended) A semiconductor film formation device, comprising:

a reaction vessel that includes a gas flow path to allow a source gas to pass through, a substrate mount site upon which to mount a substrate being provided in the gas flow path inside the reaction vessel, said substrate mount site being located on an inside surface of said reaction vessel along a first side of said reaction vessel;

a heater that is disposed along only a single side of said reaction vessel, outside of the reaction vessel on said first side along which the substrate mount site inside the reaction vessel is mounted;

a cooling device that is disposed along only a single side of said reaction vessel, outside of the reaction vessel on a second side substantially directly opposite to the heater, said cooling device controlling an internal temperature of the reaction vessel in a first section of the gas flow path where the substrate mount site is located; and

a thermal conductivity adjusting member that is disposed between the reaction vessel and the cooling device,

wherein the thermal conductivity adjusting member allows the first section along the gas flow path where the substrate mount site is located to have a thermal conductivity different from that of a second section along the gas flow path, in order to lower a thermal diffusion effect of the source gas in the first section, thereby forming a temperature gradient in the reaction vessel by providing a difference in temperature between regions of the reaction vessel.

2. (Canceled)

3. (Previously presented) The semiconductor film formation device according to claim 1, wherein:

the first section comprises an interspace formed between the reaction vessel and the thermal conductivity adjusting member.

4. (Previously presented) The semiconductor film formation device according to claim 3, wherein:

the interspace has a varying height along the gas flow path.

5. (Previously presented) The semiconductor film formation device according to claim 1, wherein:

the first section comprises a material having a thermal conductivity that is different from a thermal conductivity of a material of the second section.

6. (Currently amended) A semiconductor film formation device, comprising:

a reaction vessel that includes a gas flow path to allow a source gas to pass through and a substrate mount site on an inside surface of the reaction vessel to mount a substrate in the gas flow path, said substrate mount site being located on a first side of said reaction vessel;

a heater that is disposed along only one side of the reaction vessel, outside of the reaction vessel on said first side of the reaction vessel as the substrate mount site is located,

the heater thereby being close to the substrate mount site; and

a cooling device to control an internal temperature of the reaction vessel in a section of the gas flow path wherein the substrate mount site is located, the cooling device disposed along only one side of the reaction vessel, outside of the reaction vessel on a second side of said reaction vessel substantially directly opposite to said first side of said reaction vessel that the heater is located,

wherein a wall thickness of the reaction vessel is smaller in the section along the gas flow path where the substrate mount site is located, thereby forming an interspace between the reaction vessel and the cooling device to lower a thermal diffusion effect of the source gas in the section of the gas flow at the location of the substrate mount site, thereby forming a temperature gradient in the reaction vessel by providing a difference in temperature between regions of the reaction vessel.

7. (Canceled)

8. (Previously presented) The semiconductor film formation device according to claim 6, wherein:

the interspace has a height that varies along the gas flow path.

9. (Currently amended) A semiconductor film formation device, comprising:

a reaction vessel that includes a gas flow path to allow a source gas to pass through and a substrate mount site provided in the gas flow path to mount a substrate, said substrate

mount site being located on an inside surface of said reaction vessel along a first side thereof;

a heater that is disposed along only a single side of the reaction vessel, outside of the reaction vessel along said first side and close to the substrate mount site;

a cooling device that is disposed along only a single side of the reaction vessel, outside of the reaction vessel on a second side of said reaction vessel, said second side being substantially directly opposite to the first side of said reaction vessel along which said heater is located, the cooling device controlling an internal temperature of the reaction vessel in a vicinity of the substrate mount site;

a plate member that is disposed along said second side of said reaction vessel opposite to the substrate mount site in the gas flow path; and

a thermal conductivity adjusting member that is disposed between the cooling device and the plate member,

wherein the thermal conductivity adjusting member provides a first section along the gas flow path with a thermal conductivity different from a second section along the gas flow path, to lower a thermal diffusion effect of the source gas in the first section, thereby forming a temperature gradient in the reaction vessel by providing a difference in temperature between regions of the reaction vessel.

10. (Canceled)

11. (Previously presented) The semiconductor film formation device according to claim 9 wherein:

the first section comprises an interspace formed between the reaction vessel and the thermal conductivity adjusting member.

12. (Previously presented) The semiconductor film formation device according to claim 11, wherein:

the interspace has a height that varies along the gas flow path.

13. (Previously presented) The semiconductor film formation device according to claim 11, wherein:

the first section comprises a material whose thermal conductivity is different from that of a the second section.

14. (Currently amended) A semiconductor film formation device, comprising:

a reaction vessel that includes a gas flow path to allow a source gas to pass through and a substrate mount site provided in the gas flow path to mount a substrate, said substrate mount site being located on an inside surface of said reaction vessel on a first side thereof;

a heater that is disposed along only a single side of said reaction vessel, outside of the reaction vessel along said first side and close to the substrate mount site;

a cooling device that is disposed along only a single side of said reaction vessel, outside of the reaction vessel on a second side thereof, said second side being substantially directly opposite to the first side along which the heater is disposed, to control an internal temperature of the reaction vessel in a vicinity of the substrate mount site; and

a plate member that is disposed along said second side, opposite to the substrate mount site in the gas flow path,

wherein the reaction vessel includes a wall thickness that is smaller in a first section along the gas flow path than a wall thickness in a second section, such as to thereby form an interspace between the reaction vessel and the cooling device to lower a thermal diffusion effect of the source gas in the first section, thereby forming a temperature gradient in the reaction vessel by providing a difference in temperature between regions of the reaction vessel.

15. (Canceled)

16. (Previously presented) The semiconductor film formation device according to claim 14, wherein:

the interspace has a varying height along the gas flow path.

17. (Previously presented) The semiconductor film formation device according to claim 1, wherein said gas flow path is substantially parallel with an exposed upper surface of said substrate as mounted upon said substrate mount site.

18. (Previously presented) The semiconductor film formation device according to claim 6, wherein said gas flow path is substantially parallel with an exposed upper surface of said substrate as mounted upon said substrate mount site.

19. (Previously presented) The semiconductor film formation device according to claim 9, wherein said gas flow path is substantially parallel with an exposed upper surface of said substrate as mounted upon said substrate mount site.

20. (Previously presented) The semiconductor film formation device according to claim 14, wherein said gas flow path is substantially parallel with an exposed upper surface of said substrate as mounted upon said substrate mount site.